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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Eric SAUREL, et al.

Appln. No.: 09/863,315

Confirmation No.: 1360

Filed: May 24, 2001

For: DEVICE FOR COATING OPTICAL FIBERS

Docket No: Q64632

Group Art Unit: 1734

Examiner: Brenda A. LAMB

SUBMISSION OF APPELLANT'S BRIEF ON APPEAL

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an original and two copies of Appellant's Brief on Appeal. A check for the statutory fee of $330.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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Date: July 6, 2004

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APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 1.192, Appellant submits the following:

I. REAL PARTY IN INTEREST

The real party in interest is the Assignee, ALCATEL. An Assignment was filed in this application and recorded at reel 011841, frame 0674.

II. RELATED APPEALS AND INTERFERENCES

To the best of the undersigned's knowledge, there are no related appeals or interferences.

III. STATUS OF CLAIMS

This application was originally filed with claims 1-17. On January 9, 2003, Appellant added claims 18-23. Currently, claims 3, 4, 6, 7, 9, 10, 12, 13, 16, 17, 22, and 23 are objected to as being dependent upon a rejected base claim, but are indicated as being allowable if rewritten

in independent form to include the limitations of the respective base and all intervening claims. Accordingly, these claims are not on appeal.

Claims 1, 2, 5, 8, 11, 14, 15, and 18-21 stand finally rejected as follows and are on appeal:

1. Claims 1, 2, 5, 8, 11, 14, 15, and 18-21 are rejected under 35 U.S.C.§ 103(a) as being unpatentable over Kar et al. (USP 4,531,959).

IV. STATUS OF AMENDMENTS

On January 9, 2003, Appellant filed an Amendment under 37 C.F.R. § 1.111 in response to the non-final Office Action dated September 9, 2002, amending claims 1, 11, 14, and 15 and adding claims 18-23.

On July 22, 2003, Appellant filed an Amendment under 37 C.F.R. § 1.111 in response to the second non-final Office Action dated April 22, 2003, amending claims 3 and 6.

On March 8, 2004, Appellant filed a Response under 37 C.F.R. § 1.116 in response to a final Office Action dated December 1, 2003. No amendments to the claims were made in the Response.

The Examiner issued an Advisory Action dated April 22, 2004, withdrawing the rejection of claims 3, 4, 6, and 7, and maintaining the rejection of claims 1, 2, 5, 8, 11, 14, 15, and 18-21.

Appellant filed a Notice of Appeal on May 3, 2004, to appeal from the final Office Action.

V. SUMMARY OF THE INVENTION

Appellant's invention relates to an optical fiber coating device, and an installation having an optical fiber coating device, for applying to an optical fiber a coating concentric with the fiber. Specification at page 1, lines 2-7.

Conventionally, optical fiber manufacturing involves drawing a preform into a fiber without contact, by heating an end of the preform in an induction furnace. Specification at page 1, lines 9-15. The fiber is further coated downstream of the furnace, for example, with a resin that is polymerized by ultraviolet light in order to protect the fiber. Specification at page 1, lines 21-32. It is imperative that before and during the coating process, the optical fiber is prevented from contacting any solid surfaces that can damage the fiber. Specification at page 1, lines 33-36.

A problem encountered with conventional coating devices that have an injector for applying the coating, such as the coating device disclosed in U.S. Patent No. 4,531,959 to Kar et al.[1] and described in the Specification at page 1, lines 37 to page 2, line 25, is its inability to:

> assure a sufficiently accurate concentric relationship between the resin coating applied to the fiber and the fiber itself because of the tolerance between the stepped bore of the jacket, on the one hand, and the dies and the grid on the other hand. Because of these

[1] U.S. Patent No. 4,531,959 to Kar et al. is the primary reference relied upon by the Examiner to reject the claims.

> tolerances, these components can take up a slightly skewed or eccentric position, instead of being aligned concentrically. Also, there is no seal between the stepped bore, . . . and the grid and each of the dies . . ., and the resin under pressure can therefore escape from the chamber to the outside by passing between the stepped bore and the locating flanges of the grid and then between the stepped bore and the dies.

Specification at page 2, line 26 to page 3, line 2. Appellant's invention overcomes these deficiencies.

Referring to the Figure, Appellant's invention includes an injector having a die-support 1, and entry die 2, and an exit die 3. "The die-support 1 has an upstream end part 4, an intermediate part forming a grid 5 and a downstream end part 6. These three parts are made in one piece and are disposed successively along the longitudinal axis X." Specification at page 5, line 36 to page 6, line 3. As explained by Appellant:

> The injector according to the invention achieves an accurate concentric relationship between the coating applied to the fiber and the fiber itself, thanks to reliable positioning of the dies and the grid. Reliable positioning of the grid 5 is obviously achieved by virtue of the fact that it is integrated into the die-support 1. This eliminates the effects encountered in the prior art

> of manufacturing tolerances and defects affecting the position of the grid inside the die-support. The concentric relationship of the entry die 2, the exit die 3 and the grid 5 is obtained by the fit with which the entry die 2 and the exit die 3 are positioned in their respective bores 7 and 14. Machining the bores 7 and 14 is facilitated by the fact that it can be carried out from the corresponding end of the die-support 1 and because their diameters are greater than the inside diameter of the grid 5.

Specification at page 10, lines 18-34.

VI. ISSUES

The issues on appeal are:

1. whether claims 1, 2, 5, 8, 11, 14, 15 and 18-21 were improperly finally rejected under 35 U.S.C.§ 103(a) as being unpatentable over Kar et al. (USP 4,531,959); and

VII. GROUPING OF CLAIMS

For the purpose of this appeal only, the grouping of the claims are as follows:

Group 1: Claims 1, 11, and 14.

Group 2: Claims 2, 5, 8, and 15, and 18.

Group 3: Claims 19-21.

VIII. ARGUMENTS

1. Whether Claims 1, 2, 5, 8, 11, 14, 15 And 18-21 Were Improperly Finally Rejected Under 35 U.S.C.§ 103(a) As Being Unpatentable Over Kar et al.

As explained, *supra*, a novel and unobvious feature of Appellant's invention recited in claims 1, 11, 14, and 18 is an entry die-support and grid that form a one-piece integral construction. The Appellant and the Examiner are in agreement that Kar et al. discloses a multi-piece assembly and, therefore, fails to explicitly teach Appellant's one-piece integral construction.

However, the Appellant and the Examiner disagree as to whether Kar et al. would have suggested to the skilled artisan modifying the disclosed multi-piece assembly to obtain Appellant's invention. *See, e.g.*, Office Action of December 1, 2003 at page 2, last paragraph. For the reasons of record in the prosecution history to date and those set forth below, Appellant submits that Kar et al. would not have suggested this modification to the skilled artisan. As explained below, the differences between Appellant's claimed invention and the structure disclosed in Kar et al. are significant and, rather than suggest Appellant's invention, would have ***taught away*** from it. Accordingly, the grounds of rejection can not be rooted in an actual prior art disclosure, but in an improper hindsight reconstruction of Appellant's invention.

a. Examiner's Initial Reliance On Kar et al. To Reject The Claims

Since the first rejection, the Examiner has relied on Kar et al. to rejection the claims. Therefore, to better understand the Examiner's current rejection in view of Kar et al., it would be

helpful to consider the Examiner's initial rejection of claims 1, 2, 5, 8, 11, 14, and 15 as allegedly obvious in view of Kar et al.'s disclosure in Fig. 2 of the reference as set forth in the first Office Action dated September 9, 2002.

Specifically, the grounds of rejection stated:

> Kar et al teaches the design of an apparatus for coating an optical fiber which is comprised of a die support 30, a grid 39, entry die 42 and exit die 38. Kar discloses the claimed invention except for an integral or one piece die support and grid. However, it would have been obvious to one having ordinary skill in the art at the time of invention was made to construct the Kar et al grid and die support as one piece since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. See Howard v. Detroit Stove Works, 150 U.S. 164 (1893). With respect to claims 2-3 and 5-6, Kar et al shows that the entry die and exit die are arranged such that its outer diameter is greater than the inside diameter of the grid. Kar et al shows the radial face of the entry die is pressed against the first radial wall of the die support and the radial face of the exit die is pressed against the second radial wall of the die support. With respect to claims 8 and 15, Kar et al

> shows the outside diameter of the die support on each side of the grid is greater than the outside diameter of the grid. With respect to claims 11-13, Kar et al shows in Figure 2 that the coating apparatus includes a support 16 having a means for feeding coating around the grid (elements 26-27). Kar et al shows the chamber has a volume greater than inside volume of the grid. Kar et al teaches the coating liquid feed means include a plurality of passages discharging radially into the chamber (see Figure 3). With respect to clams (sic) 9-10 and 16-17, Kar et al appears to show the relationship between outside diameter of die support and inside and outside diameter of the grid.

Office Action dated September 9, 2002 at pages 3-4.

Appellant traversed the rejection, arguing that the Examiner reliance on *Howard v. Detroit Stove Works* was misplaced. *Howard v. Detroit Stove Works* does not stand for a *per se* rule that making integral what was formerly more than one piece only involves that which is routine skill in the art. Rather, the holding of this decision is specific to the claimed subject matter directed to improvement in heating stoves. While the Court in *Howard* held that the claims of the "third patent, No. 206,074" were invalid in view of the prior art on the basis that "it involves no invention to cast in one piece an article which has formerly been cast in two pieces and put together" (*Howard* at 170). This holding was reached only after generally considering

the scope and content of the prior art, the level of skill in the art, and the differences between the prior art and the claimed invention.

Appellant further pointed out the Supreme Court's decision in *Graham v. John Deere Co.*, that proper analysis of whether a claimed invention is obvious over the prior art requires consideration of:

(1) the scope and content of the prior art,

(2) the differences between the prior art and the claim at issue, and

(3) the level of ordinary skill in the pertinent art.

Graham v. John Deere Co., 383 U.S. 1; 86 S. Ct. 684; 148 U.S.P.Q. 459 (1893). The Examiner's initial grounds of rejection, on the other hand, were not the result of the foregoing analysis. Rather, they merely concluded that it is routine skill in the art to make the integral one-piece die-support.

Regarding the present invention as recited in the independent claims, Kar et al. does not teach or suggest a grid that is an integral one-piece construction with the die-support (claims 1 and 11), receivers (claim 14), and upstream/downstream parts (claim 18). To the contrary, Kar et al. teaches away from such structures.

Referring to Fig. 2 of Kar et al., the cylindrical flow distribution sleeve 39 is clearly a thin walled structure having feed holes 40 throughout to introduce coating fluid to the interior of the sleeve; and end flanges 41 to correctly position the sleeve with respect to the cylindrically shaped housing in both the axial and radial directions, leaving an inner chamber 53 between the

sleeve and the housing. It would be virtually impossible to construct the sleeve 39 and housing 30 as a one-piece integral construction. In particular, the feed holes in the sleeve need to be formed prior to introducing the sleeve into the housing. Also, the sleeve diameter must be sized to be smaller than the corresponding inner diameter of housing 30 so as to leave an annular gap for the inner chamber 53. Furthermore, the sleeve 39 is stacked on top of the sizing die 38. The sizing die is clearly a separate piece that needs to be inserted into the housing from the top (larger opening) prior to insertion of the sleeve. This would be impossible if the sleeve were somehow integrally formed with the housing.

Therefore, a die-support and grid in the form of an integral one-piece construction requires an entirely different structure than that disclosed in Kar et al.--to be sure, a structure not taught or even suggested by this reference or any other reference of record.

b. Examiner's Current Reliance On Kar et al. To Reject The Claims

In the Examiner's April 22, 2003 response to Appellant's initial arguments, the Examiner correctly acknowledged that Kar et al. fails to disclose the entry die-support and grid as a one-piece integral construction. However, the grounds of rejection turned to the embodiment illustrated in Fig. 6 of Kar et al., which has "a sleeve 63, the lower end of which is extended," and "[s]izing die 64 [which] is located in the lower end of the sleeve 63 which is free from holes." Kar et al. at column 6, lines 21-23. Based on this disclosure, the Examiner argued in the grounds of rejection that extending the sleeve 63 to form this structure would have been obvious in order to facilitate alignment:

Kar, et al. teaches the design on optical fiber coating apparatus as shown in Fig. 6. Kar, et al. teaches his apparatus is comprised of an integral die support or receiver or downstream part and grid for applying coating to the fiber. Kar, et al. shows the die support or receiver or downstream part for receiving the exit die and the exit die and grid together define a passageway for the optical fiber. Kar, et al. teaches the die support and grid are integral to facilitate precise alignment of the longitudinal axis of the grid and the exit die. Kar, et al. fails to teach the integral grid and die support includes a die support for the entry die or upstream part. However, it would have been obvious to modify the Kar et al apparatus by extending sleeve 63 in a direction upstream of the grid or provide an upstream part to receive the entry die to facilitate alignment of the longitudinal axis of the guide die or entry die with the aligned longitudinal axis of the grid and exit die for obvious reason to expect similar benefits taught by Kar et al for making integral the grid and the die support/downstream part/receiver for the exit die -facilitate maintenance by eliminating time spent for aligning the dies, both exit and entry, the grid. This claim 1 is obvious over Kar et al.

> With respect to claim 11, the same rejection applied to claim 1 is applied here. Kar et al shows a support/housing for the device for applying coating onto the optical fiber comprising a means for feeding coating around the grid. With claim 14, the same rejection applied to claim 1 is applied here. The recitation that the grid has through-holds that open into a common annular space surrounding the grid does not further limit applicant's invention over Kar et al since Kar et al shows in his figure that there is a space surrounding the grid into which coating is fed.

Office Action dated April 22, 2003 at pages 2-3. Appellant disagrees.

Appellant argued in the Amendment of July 22, 2003, and maintains here, that the USPTO is held to a rigorous standard when trying to show that an invention would have been obvious in view of the combination of two or more references or a combination (or modification) of separate disclosures within a single reference. *See, In Lee,* USPQ2d 1430, 1433 (Fed. Cir. 2002), *citing, e.g., In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.").

The Federal Circuit goes on to emphasize that the "need for specificity pervades this authority." *In re Lee* at 1433 (emphasis added) (*citing In re Kotzab*, 217 F.3d 1365, 1371, 55

USPQ2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed" (emphasis added)).

The Examiner's grounds of rejection do not satisfy the Federal Circuit's rigorous standard for demonstrating that the claimed invention would have been obvious in view of Kar et al.

The Examiner's grounds of rejection mistakenly concluded that "it would have been obvious to modify the Kar et al. apparatus by extending sleeve 63 in a direction upstream of the grid or provide an upstream part to receive the entry die to facilitate alignment of the longitudinal axis of the guide die or entry die with the aligned longitudinal axis of the grid and exit die for obvious reason to expect similar benefits taught by Kar et al. for making integral the grid and the die support/downstream part/receiver for the exit die -facilitate maintenance by eliminating time spent for aligning the dies, both exit and entry, the grid." Office Action dated April 22, 2003 at page 3. This is clearly not the case.

Referring to Fig. 6, Kar et al. states:

> The embodiment of FIG. 6 employ[s] a sleeve 63, the lower end of which is extended. Sizing die [38] is located in the lower end of sleeve 63 which is free from holes. Location of sizing die 38 within the flow distribution sleeve facilitates the precise alignment of their longitudinal axes. It may even be possible to

> fabricate the sizing die and flow distribution sleeve as a unitary structure. However, cleaning techniques would have to be developed for any of these embodiments. It is noted that the embodiment of FIG. 2 can be easily cleaned since it is readily disassembled.

Kar et al. at column 6, lines 21-32 (emphasis added). First, the embodiment of Fig. 6 and corresponding discussion concerns the sizing die 38 at the downstream end of the flow distribution sleeve 63. The reference is otherwise silent as to the guide die 42 at the upstream side of the flow distribution sleeve being disposed anywhere but outside the flow distribution sleeve. Indeed, contrary to the Examiner's position, one skilled in the art would not have thought to extend the sleeve at the upstream end and place the guide die 42 therein. In each of the embodiments that illustrates the guide die, the guide die is positioned outside the flow distribution sleeve. There is absolutely no basis disclosed in the applied art for reconfiguring the apparatus as argued in the grounds of rejection. Absent Appellant's disclosure, one skilled in the art would not have thought to reconfigure the structure as alleged.

Moreover, Kar et al. would have discouraged (*i.e.*, taught away from) placing the guide die within the flow distribution sleeve, since the reference notes that it is preferable to have the components readily disassembled. Placing the guide die within the sleeve would only serve to complicate its disassembly and make the resulting device very difficult to clean. For this reason, Kar et al. identifies Fig. 2 as the preferred embodiment, in which the components are stacked and

can be readily disassembled. Indeed, the upstream guide die serves to press against the sleeve in the axial direction to ensure its remains properly seated within the housing 30.

Furthermore, in the embodiment of Fig. 6, both the bottom end of the sizing die 38 and that of the sleeve 63 must rest on a shoulder or flange within the coater so as to prevent their axial downward displacement. On the other hand, if the upper guide die were sized to fit within the sleeve at the top, it would tend to displace axially downward and block the feed holes 40, since there is no disclosed structure for stopping the guide die's axial displacement. Clearly, therefore, the asserted modification would not have been obvious or desirable. Rather, at most, one skilled in the art would take away from Kar et al. the idea of placing only the bottom sizing die within the sleeve.

Responding to these arguments in the final Office Action dated December 1, 2003, the Examiner *first* took the following position:

> Applicant's argument of the non-obviousness of modifying the Kar et al apparatus such that the sleeve is extended upstream of the grid to accommodate the guide die or entry die since it would complicate cleaning of the assembly is found to be non-persuasive. If one desires to reduce time spent in aligning the longitudinal axis of the entry die and exit die, it would have been obvious to extend the Kar et al 63 sleeve upstream of the grid so as to accommodate the entry or guide die.

Office Action dated December 1, 2003 at page 5. Appellant continues to disagree.

As Appellant argued in its Response of March 8, 2004, and maintains herein, there is absolutely no teaching or suggestion in Kar et al. regarding any alleged time saved in aligning the longitudinal axis of the entry die and exit die by extending the sleeve upstream. To the contrary, if anything, Kar et al. would lead one skilled in the art away from such a modification, since the reference explicitly touts the benefits of the embodiment of Fig 2 of the reference, which "can be easily cleaned since it is readily disassembled." Therefore, one skilled in the art would not think of extending the sleeve in the upstream direction to accommodate the entry die therein.

Moreover, since Kar et al. is entirely silent with respect to extending the sleeve upstream of the grid, the reference cannot be relied upon as making any kind of comparison between the alleged and undisclosed time saving benefits in aligning the longitudinal axis of the entry die and the actually disclosed cleaning benefits that encourage one to adopt the embodiment of Fig. 2, at least with respect to the entry die. Accordingly, the Examiner's rationale finds no basis in the disclosure of the applied art.

Furthermore, as Appellant has explained, in the embodiment of Fig. 6, both the bottom end of the sizing die 38 and the sleeve 63 must rest on a shoulder or flange within the coater so as to prevent their axial downward displacement. On the other hand, if the upper guide die were sized to fit within the sleeve at the top, it would tend to displace axially downward within the sleeve and block the feed holes 40, since there is no disclosed structure for stopping the guide

die's axial displacement within the sleeve. Clearly, therefore, the asserted modification would not have been obvious or desirable. Rather, at most, one skilled in the art would take away from Kar et al. the idea of placing only the bottom sizing die within the sleeve.

The Examiner responded to this position by introducing a second reference, Guillemette et al.:

> Applicants argument of the non-obviousness of modifying the Kar et al apparatus such that the sleeve is extended upstream of the grid to accommodate the guide die or entry due to possible axial displacement of the entry die is found to be non-persuasive since Kar et al as modified with the Guillemette et al hollow screw would have prevented axial displacement of the entry die.

Office Action dated December 1, 2003 at page 5.

The Examiner's reliance on Guillemette et al. does not advance her position. In particular, the Examiner failed to explained how the hollow screw of Guillemette et al. would be incorporated into a modified coating apparatus, which includes the sleeve of Fig. 6 of Kar et al. and that is further modified by extending the upper portion to accommodate the entry die. These alleged extensive modifications are not rooted in any actual disclosure, but are conveniently arrived at by selectively lifting disparate features from different embodiments and different references to achieve Appellant's invention, while all the time relying on Appellant's disclosure as an instruction manual for carrying out this hypothetical exercise.

The Examiner does not appear to fully appreciate Appellant's explanation regarding the displacement of the dies. In the embodiment of Fig. 6 of Kar et al., both the bottom end of the sizing die and the sleeve must rest on a shoulder or flange within the coater so as to prevent their axial downward displacement. On the other hand, if the upper guide die were sized to fit within the sleeve at the top, it would tend to displace axially downward within the sleeve and block the feed holes 40, since there is no disclosed structure for stopping the guide die's axial displacement. The addition of a hollow screw that applies a compression force on the sleeve (or even the die) will not prevent downward axial displacement of the entry die (*i.e.*, displacement further within the sleeve).

The Examiner argued in the alternative as follows:

> Alternatively, Kar et al column 6 lines 26-27 teaches it is possible to fabricate ***the sizing die or entry die as a unitary structure*** if one wants to prevent axial displacement of the dies. Therefore, it would have been obvious to extend Kar et al sleeve 63 upstream to accommodate the entry or guide die and assemble or fabricate the entry die/sleeve/exit die as a unitary structure since Kar et al teaches the possibility of fabricating or assembling together the exit die and sleeve as a unitary structure and obvious to assemble or fabricate the entry die/sleeve/exit die as a unitary

structure to facilitate in installing the entry die/grid/exit die in the optical coating apparatus.

Office Action dated December 1, 2003 at pages 5-6. In the Advisory Action of April 22, 2004, the Examiner pointed to no actual disclosure, but continued to speculate that it would have been obvious to extend the sleeve 63 in Kar et al., allegedly to facilitate alignment of the entry die. Furthermore, relying on a selected dictionary definition, the Examiner argued in the Advisory Action of April 22, 2004 that the word "unitary" as used in Kar et al. at column 6, lines 26-27 can mean several pieces.

Again, the Examiner's understanding of Kar et al. is not based on a fair reading of the disclosure. To the contrary, when considered as a whole, the applied art would teach away from such a modification.

Kar et al. states that it may be possible "to fabricate the sizing die and the flow distribution sleeve as a unitary structure." Kar et al. at column 6, lines 26-27. Therefore, Kar et al. is still silent about any modifications to the entry die, let alone making it a unitary structure with the sleeve. Additionally, even if one were to make the entry die and the sleeve a unitary structure so as to be a one-piece integral construction, then this structure clearly would not meet the requirement for a separate entry die disposed in the die-support as recited in claims 1, 11, and 18. Indeed, there would no longer be a requirement for a die-support with receivers recited in claim 14. In effect, the Examiner's hypothetical modification here, aside from not being rooted in any prior art disclosure, would still not meet all the limitations of the pending claims.

As for the alleged motivation of facilitating alignment, nowhere does the reference provide this teaching. Appellant explained, *supra*, that Kar et al. is silent as to the guide die 42 at the upstream side of the flow distribution sleeve being disposed anywhere but outside the flow distribution sleeve. Accordingly, there is absolutely no basis disclosed in the applied art for reconfiguring the apparatus as argued in the grounds of rejection. Rather, for all the reasons discussed, *supra*, including Kar et al. disclosure regarding the maintenance of the assembly and the lack of axial support for the entry die, one skilled in the art would have been discouraged from adopting the Examiner's hypothetical modifications.

As for the Examiner's reliance on a dictionary definition of the word "unitary" to allow for several pieces, the Examiner failed to properly construe the meaning of the word within the context of the disclosure. Clearly, the word as used in Kar et al., when properly understood by one skilled in the art, takes on the opposite meaning (*i.e.*, undivided).

Therefore, the asserted modification would not have been obvious or desirable. Rather, at most, one skilled in the art would take away from Kar et al. the notion of placing only the bottom sizing die within the sleeve.

With respect to claim 2, which recites, "the entry die is disposed in a housing of the die-support whose diameter is greater than the inside diameter of the grid," the grounds of rejection state:

> With respect to claims 2, 5, 8, 15 and 18, Kar et al **infers** that if cavity or chamber is not formed in the housing, then the

> housing or alternatively, if not formed in the housing, in Figure 5 shows the ends of the sleeve or grid are provided with flanges to coact with walls of housing to form a flow chamber/annular chamber 53 through which coating is fed. Therefore, if one desires to use one of Kar et al coating applicators which do not have a flow chamber or annular chamber which is formed within the housing, it would have been obvious given the modifications of the Kar et al sleeve with an upstream and downstream part to enlarge the upstream and downstream part for respectively the entry and exit die such that the upstream and downstream part has an outer diameter larger than outer diameter of the grid to enable one to form an annular flow chamber between the upstream and downstream part thus enabling one to insert the die support in die housing which does not have annual flow chamber formed in the housing for the taught advantages of an integral die support and grid-facilitate alignment of precise alignment of the longitudinal axes of the entry and exit die with the grid.

Office Action of April 22, 2003 at pages 3-4 (emphasis added).

The grounds of rejection clearly rely on the piecing together of multiple suppositions without pointing to any disclosure that would have guided the skilled artisan. However, when

read as whole, the disclosure in Kar et al. would have taught away from the alleged modification asserted by the Examiner.

Appellant and the Examiner are in agreement that none of the embodiments of Kar et al. discloses housing the die-support whose diameter is greater than the inside diameter of the grid, while also having the die-support and the grid as an integral one-piece construction. In the embodiment of Fig. 2, the guide die is disposed in a bore of the housing 30 having a diameter larger than that of the flow distribution sleeve. On the other hand, the bore 32 is sized to match the outer flange diameter of the flow distribution sleeve 39 and the outer diameter of the sizing die 38. Given this structure and the disclosure of the alternative embodiment of Fig. 6, one skilled in the art would understand that the flow distribution sleeve 39 could be extended to accommodate the sizing die therein (as shown in Fig. 6). However, as noted above with respect to the independent claims, there is no disclosure for extending the upstream portion of the flow distribution sleeve to accommodate the guide die 42.

Moreover, there is no disclosure for making the additional modification of expanding the inside diameter of the flow distribution sleeve at the upstream end so that its diameter is greater than that of the grid.

To the contrary, in all the embodiments, the flow distribution sleeve 39 has a uniform inside diameter, even in the embodiment of Fig. 6 in which the sizing die is placed within an extension of the sleeve. There is no disclosed rationale for incurring added manufacturing costs to expand the flow distribution sleeve at the upstream end, since this would defeat any alleged

benefit of placing the guide die within the flow distribution sleeve. Rather, the modification would entail costly re-manufacturing of a flow distribution sleeve that expands and presses against the inside face of the expanded bore 31 shown in Fig. 2. Such redundancy would serve no apparent purpose, and result in a complex and expensive structure.

As for the Examiner's motivational rationale based on the desire to form an annular flow chamber within the housing, Kar et al. discloses two alternative approaches, neither of which is described as being deficient in any way so as to motivate the skilled artisan to search for yet a third undisclosed approach. The first approach is to include an annular slot 50 in the housing 30 followed by an inner chamber defined by the bore 32 and the flanges 41 of the flow distribution sleeve. The second approach, as illustrated in Fig. 4, is to have an annular tapered cavity 56 and omit the flanges 41.

In essence, the Examiner' rationale for completely reconfiguring the structure of Kar et al. to obtain the claimed invention is based on Appellant's own disclosure, and not on any prior art disclosure.

In the Office Action dated December 1, 2003, the Examiner responded as follows to Appellant's arguments in support of claim 2:

> Applicant's argument that there is no disclosure for making an additional modification of expanding the inside diameter of the flow distribution chamber at the upstream end so its diameter is greater than the grid is found to be non-persuasive. Kar et al in

Figures 2 and 5 show the opposite ends of the sleeve or grid are enlarged as defined with a radial wall extending so as to form a flange. Kar et al teaches the flange or enlarged opposite ends of the grid or sleeve are needed to space the grid or sleeve from the housing and form the inner flow chamber. Therefore, if one desires to use one of Kar et al coating applicators which do not have a flow chamber or annular chamber which is formed within the housing, it would have been obvious given the modifications of the Kar et al sleeve with an upstream and downstream part to enlarge the upstream and downstream part for respectively the entry and exit die such that the upstream and downstream part has an outer diameter larger than outer diameter of the grid to enable one to form an annular flow chamber between the upstream and downstream part thereby enabling one to insert the die support in die housing which does not have annual flow chamber formed in the housing for the taught advantages of an integral die support and grid-facilitate alignment of precise alignment of the longitudinal axes of the grid with a die.

Office Action dated December 1, 2003 at pages 6-7.

Once again, the Examiner has pieced together multiple suppositions without pointing to any disclosure that would have guided the skilled artisan. Rather, the Examiner relies on improper hindsight using Appellant's disclosure to reconstruct the invention. However, when read as a whole, the disclosure in Kar et al. would have led away from the alleged modification asserted by the Examiner.

Again, there is no disclosure of making the additional modification of expanding the ***inside*** diameter of the flow distribution sleeve at the upstream end so that its diameter is greater than that of the grid. The Examiner points to the flanges 41 to argue that Kar et al. discloses the need to create an annular cavity around the grid. However, these flanges do not enlarge the inside diameter of the sleeve to create a "housing of the die-support whose diameter is greater than the inside diameter of the grid," as recited in claims 2 and 5, for example.

It is worth repeating, in all the embodiments, the flow distribution sleeve 39 has a uniform inside diameter, even in the embodiment of Fig. 6 in which the sizing die is placed within an extension of the sleeve. There is no disclosed rationale for incurring added manufacturing costs to expand the flow distribution sleeve at the upstream end and defeat any alleged benefit of placing the guide die within the flow distribution sleeve. Such extensive modifications would require costly re-manufacturing of a flow distribution sleeve that expands and presses against the inside face of the expanded bore 31 shown in Fig. 2. Moreover, such redundancy would serve no apparent purpose, and result in a complex and expensive structure.

Appellant's traversal of claim 2 also applies equally to claims 5, 8, 15, and 18.

In rejecting claims 19-21, the Examiner argued:

> it would have been obvious given the modification of the Kar et al apparatus with the integral grid and die support as discussed above that the upstream and downstream part and the grid are arranged within housing forms the relationships set forth in the claims since Kar et al discloses that grid must be spaced from wall of housing to form an annular space into which coating is provided through the holes of the grid and onto the optical fiber.

Office Action of December 1, 2003 at page 4.

Claim 19 recites that "the upstream part includes a first radial wall and the downstream part includes a second radial wall, and wherein the first radial wall opposes the second radial wall to define an annular space around the grid." Again, the Examiner can not point to any actual disclosure in Kar et al. that teaches the features recited in claim 19. Rather, the Examiner starts with Appellant's invention, and then works backwards using Appellant's disclosure as a road map to radically modify the structure of Kar et al.

Appellant and the Examiner are in agreement that Kar et al. discloses that the grid must be spaced from the wall of housing to form an annular space into which coating is provided through the holes of the grid and onto the optical fiber. However, as Appellant explained with respect to the rejection of claim 2, Kar et al. discloses alternative and complete structures for creating the annular space. There is absolutely no direction provided by Kar et al. for obtaining

Appellants claimed structure, nor is there any motivation for one skilled in the art to experiment in the direction of Appellant's invention. To the contrary, the alleged modification goes against the teaching of Kar et al. Kar et al. discloses the use of flanges 41 as a way of enlarging the annular space around the sleeve. The reference, thus, would teach away from resizing a portion of the interior diameter of the sleeve to define an annular space between the radial walls that form part of the receiving portions for the entry and exit dies.

In the Office Action dated December 1, 2003, the Examiner responded as follows:

> Applicant's argument that Kar et al fails to teach that the first and second radial wall oppose each other to define an annular chamber therebetween is found to be non-persuasive. Kar et al in Figures 2 and 5 show the opposite ends of the sleeve or grid are enlarged. Kar et al. shows the enlargement at each end of the grid or sleeve as being defined by a radially extending wall which forms a flange at each end. Kar et al teaches the flange or enlarged opposite ends of the grid or sleeve are needed to space the grid or sleeve from the housing and form the inner flow chamber. Therefore, if one desires to use one of Kar et al coating applicators which do not have a flow chamber or annular chamber which is formed within the housing, it would have been obvious given the modifications of the Kar et al sleeve with an upstream and

> downstream part to enlarge the upstream and downstream part for respectively the entry and exit die such that the upstream and downstream part each with a radially extending wall/flange has an outer diameter larger than outer diameter of the grid to enable one to form an annular flow chamber between the opposing radially extending wall of the enlarged upstream and downstream part thereby enabling one to insert the die support in die housing which does not have annual flow chamber formed in the housing for the taught advantages of an integral die support and grid-facilitate alignment of precise alignment of the longitudinal axes of the grid with a die.

Office Action dated December 1, 2003 at page 7.

Once again, the Examiner's rationale is not rooted in any prior art disclosure and, in fact, goes against the teaching of Kar et al. Kar et al. discloses the use of flanges 41 as a way of enlarging the annular space around the sleeve. The reference, thus, would teach away from resizing a portion of the *interior diameter of the sleeve to define an annular space between the radial walls that form part of the receiving portions for the entry and exit dies*. There is simply no support for the Examiner's alleged modification.

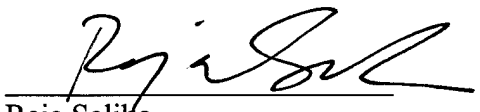
Conclusion

For all the above reasons, Appellants respectfully requests the members of the Board to reverse the rejection of all appealed claims and to find each of the claims allowable as defining subject matter which is not unpatentable under 35 U.S.C. §103(a).

The present Brief on Appeal is being filed in triplicate. Unless a check is submitted herewith for the fee required under 37 C.F.R. §1.192(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: July 6, 2004

APPENDIX

CLAIMS 1, 2, 5, 8, 11, 14, 15, and 18-21 ON APPEAL:

Claim 1. A device for applying a coating to an optical fiber, the device including:

a die support;

a grid for applying the coating to the optical fiber, the grid being an integral one-piece construction with the die-support; and

an entry die and an exit die disposed in the die-support on respective opposite sides of the grid and defining a passage for the optical fiber.

Claim 2. The device of claim 1, wherein the entry die is disposed in a housing of the die-support whose diameter is greater than the inside diameter of the grid.

Claim 5. The device of claim 1, wherein the exit die is disposed in a housing of the die-support whose diameter is greater than the inside diameter of the grid.

Claim 8. The device of claim 1, wherein the outside diameter of the die-support on each side of the grid is greater than the outside diameter of the grid.

Claim 11. An installation for applying a coating to an optical fiber, comprising:

a device that applies a coating to an optical fiber, the device comprising:

a die support;

a grid that applies the coating to the optical fiber, the grid being an integral one-piece construction with the die-support; and

an entry die and an exit die disposed in the die-support on respective opposite sides of the grid and defining a passage for the optical fiber; and

a support for the device, the support comprising means for feeding the coating liquid around the grid.

Claim 14. A die-support including a cylindrical grid of circular inside section and a receiver on each side of the grid to receive a respective die, wherein the cylindrical grid and the receivers form an integral one-piece construction; and wherein the grid has through-holes that open into a common annular space surrounding the grid.

Claim 15. The die-support of claim 14, wherein the outside diameter of the die-support on respective opposite sides of the grid is greater than the outside diameter of the grid.

Claim 18. An optical fiber coating apparatus, comprising:

a die support having a longitudinal axis defining a path for passing an optical fiber through the die support so as to coat the optical fiber with a coating, the die support comprising:

a grid for applying the coating to the optical fiber;

an upstream part defining an upstream receiving portion, the upstream part having an outer diameter greater than an outer diameter of the grid;

a downstream part defining a downstream receiving portion; the downstream part having an outer diameter greater than the outer diameter of the grid; and

an entry die having a through-hole and disposed in the upstream receiving portion; and

an exit die having a through-hole and disposed in the downstream receiving portion; and

wherein the grid, the upstream part, and the downstream part are made from the same piece of material as an integral one-piece construction.

Claim 19. The optical fiber coating apparatus according to claim 18, wherein the upstream part includes a first radial wall and the downstream part includes a second radial wall, and wherein the first radial wall opposes the second radial wall to define an annular space around the grid.

Claim 20. The optical fiber coating apparatus according to claim 19, wherein the grid has a wall defining an interior of the grid and through holes in the wall that open into the annular space and communicate the annular space with the interior of the grid.

Claim 21. The optical fiber coating apparatus according to claim 19, wherein one end of the grid is continuous with the upstream part to define the first radial wall, and the other end of the grid is continuous with the downstream part to define the second radial wall; and

wherein a side of the first radial wall facing away from the grid abuts against the entry die, and a side of the second radial wall facing away from the grid abuts against the exit die.